

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number  
**WO 2005/075995 A1**

(51) International Patent Classification<sup>7</sup>: **G01N 33/543**,  
A61B 5/00

(21) International Application Number:  
PCT/GB2005/000367

(22) International Filing Date: 3 February 2005 (03.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

0402326.3	3 February 2004 (03.02.2004)	GB
0402324.8	3 February 2004 (03.02.2004)	GB
0402325.5	3 February 2004 (03.02.2004)	GB
0402327.1	3 February 2004 (03.02.2004)	GB
0402323.0	3 February 2004 (03.02.2004)	GB
0404924.3	4 March 2004 (04.03.2004)	GB
0405313.8	9 March 2004 (09.03.2004)	GB
0405312.0	9 March 2004 (09.03.2004)	GB
0408535.3	16 April 2004 (16.04.2004)	GB

(71) Applicant (for all designated States except US): **SPHERE MEDICAL LTD** [GB/GB]; Harston Mill, Harston, Cambridge CB2 5GG (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LAITENBERGER, Peter, G.** [DE/GB]; c/o Sphere Medical Ltd, Harston Mill, Harston, Cambridge CB2 5GG (GB). **HENDRY, Stuart, P.** [GB/GB]; c/o Sphere Medical Ltd, Harston Mill, Harston, Cambridge CB2 5GG (GB). **TROUGHTON, Gavin, L.** [GB/GB]; c/o Sphere Medical Ltd, Harston Mill, Harston, Cambridge CB2 5GG (GB).

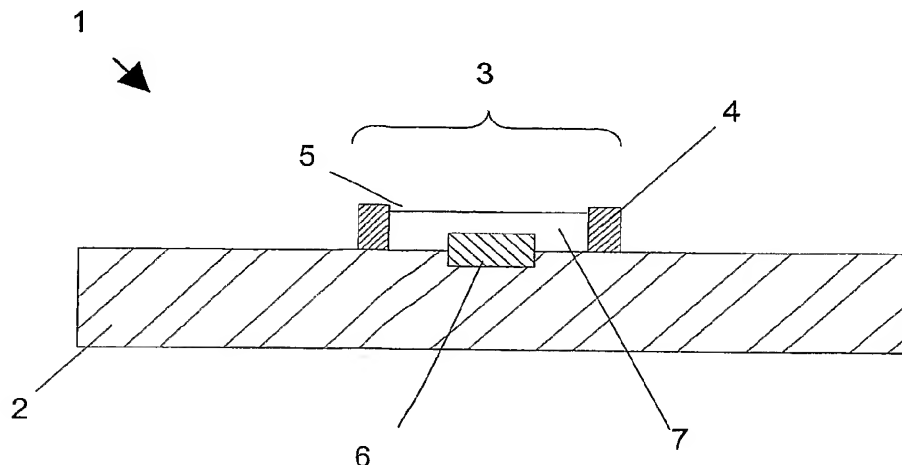
(74) Agent: **ELKINGTON AND FIFE LLP**; Prospect House, 8 Pembroke Road, Sevenoaks, Kent TN13 1XR (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: SENSOR



(57) Abstract: This invention relates to a sensor suitable for detecting the presence of one or more analytes. The sensor comprises a substrate; a confinement structure disposed on the substrate, wherein the confinement structure comprises at least a first limiting structure defining a first interior space; a transducer proximal to the first interior space; and a first synthetic polymer capable of selectively binding a first analyte, within the confinement structure. The confinement structure may have a second or further limiting structure defining a second or further interior space containing the first or preceding interior space. The sensor may also have additional confinement structures containing different materials for detecting additional analytes or taking reference measurements.

WO 2005/075995 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*